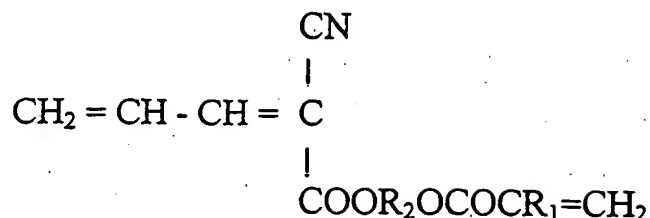


CLAIMS

1. Reactive monomers of the formula



wherein R_1 is H or CH_3 and R_2 is alkyl, alkenyl, alkynyl, alkoxyalkyl, poly(oxyalkyl), aryl, cycloalkyl or heterocyclic radical, or is one of these moieties substituted with one or more of the other moieties and could also contain halogens.

2. Reactive monomers of Claim 1 wherein R_2 is $-\text{CH}_2\text{CH}_2-$, $-\text{CH}_2\text{CH}_2\text{CH}_2-$,

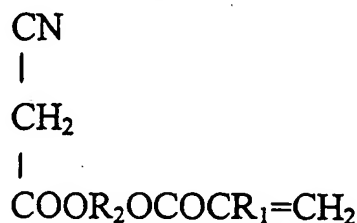
$-\text{CHCH}_2-$, $-(\text{CH}_2\text{CH}_2\text{O})_5\text{CH}_2\text{CH}_2-$ or $-(\text{CHCH}_2\text{O})_4\text{CHCH}_2-$



3. Adhesives and polymers formed by the polymerisation of the reactive monomers of Claim 1.

4. Adhesive and coating compositions containing reactive monomers of Claim

5. A method of synthesising the reactive monomers of Claim 1 by reaction of acrolein with esters of the formula



wherein R_1 is H or CH_3 and R_2 is alkyl, alkenyl, alkynyl, alkoxyalkyl, poly(oxyalkyl), aryl, cycloalkyl or heterocyclic radical, or is one of these moieties substituted with one or more of the other moieties and could also contain halogens.

6. Reactive monomers of Claim 1 wherein they are stabilised against premature polymerisation with free-radical polymerisation inhibitors, including but not limited to hydroquinone, p-methoxyphenol, t-butyl catechol, in amounts of from 0.001 to 1%; with anionic polymerisation inhibitors including but not limited to sulphur dioxide, hydrogen fluoride, phosphoric acid, phosphonic acids, sulfuric acid, sulphonic acid, carboxylic and organic sulfonic acids, sultones, boron trifluoride and its complexes, phosphazenes, in amounts of from 0.00001 to 1%.
7. Reactive monomers of Claim 1 characterised as being capable of polymerisation to high molecular weight polymers via anionic, cationic, or radical mechanisms, as well as via a combination of any of them.
8. Reactive monomers of Claim 1 characterised as being capable of curing to a different degree and state thus producing polymers of rubbery, thermoplastic and crosslinked nature, as well as the being capable of step-wise cure, thus changing the nature of the polymer or adhesive bond from rubbery or thermoplastic to crosslinked.
9. Reactive monomers of Claim 1 characterised as being capable of instantaneous polymerisation at ambient temperature when spread as a thin film between two substrates, producing an adhesive bond.
10. Reactive monomers of Claim 1 characterised as being capable of bonding metals, plastics, rubbers, glass, wood, paper, live soft or bone tissue.
11. Compositions based on reactive monomers of Claim 1 containing anionic polymerisation initiators, cationic polymerisation initiators, free-radical polymerisation initiators, compounds generating radicals or ions under visible, ultraviolet or electron beam irradiation.
12. Compositions based on reactive monomers of Claim 1 containing polymeric thickeners, viscosity regulators, plasticisers, thixotropic agents, compatibilisers, adhesion promoters, pigments, colourants, fillers, deodorants and perfumes.
13. Compositions based on reactive monomers of Claim 1 containing other monomers with a reactive bond, including but not limited to cyanoacrylates.
14. Application of reactive monomers of Claim 1 in adhesives and coatings in industry and medicine, and in the manufacture of positive and negative photo or electron beam resists.